|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Supplemental Table 2: Comparison of fossil *Picea engelmannii* and *Picea indet* *sp.* with extant species of *Picea* (*P. engelmannii, P. glauca, P. pungens, and P. mariana*) from North America | | | | | | | |
| Plant organ | Morphological/morphometric  Character | *P.engelmannii*  *(ZRFS)* | *P. indet sp. (ZRFS)* | *P. engelmannii* | *P. glauca* | *P. pungens* | *P. mariana* |
| Seed cones | Length | 36.3 (19.3 – 76) | 31 (7.5 – 78.2) | 40.8 (25 – 70) | 39.6 (25 – 60) | 75.1 (50 – 100) | 20 (15 – 40) |
| Width | 11.8 (7.4 – 16.4) | 12.9 (5.7 – 18.3) | 20 – 25 | 12 – 25 | 25 – 45 | 15 – 20 |
| Shape | Oblong-cylindrical | Oblong-cylindrical | Ovoid-cylindrical | Ovoid-oblong-cylindrical | Ovoid-oblong-cylindrical | Ovate/ovoid |
| Cone scales | Length | 10.7 (4.2 – 9.4) | 11.2 (7.4 – 18.5) | 11.95 (12 – 20) | 9.47 (10 – 13) | 14.4 (15 – 24) | 7.8 (7 – 13) |
| Width | 7.3 (4.2 – 9.4) | 7.5 (3.5 – 12.8) | 9 – 19 | 7.7 (8 – 10) | 10.4 (10 – 15) | 4.8 (6 – 10) |
| Papery or woody | Papery | Woody | Papery | Woody | Papery | Woody |
| Shape | Oval/rhombic | Fan/rounded | Obovate-obtrullate | Fan/obobate-oblong | Obrullate/rhombic | Obovate-suborbicular |
| Bract | Length | 4.2 (1.9 – 9.7) | 3.57 (1.8 – 6.7) | 2 – 2.25 | 3.9 (2 – 5) | 3 – 7 | 3.2 (1 – 3) |
| Width | 1.66 (0.44 – 6) | 1.4 (0.09 – 2.4) | 2.28 (3 – 6) | 1.5 (1.5 – 2) | 1 – 1.5 | 1.3 (1 – 2) |
| Shape | Ovate triangular | Oblong trifurcated | Ovate triangular | Bifurcated rounded-obtuse | Tri-lobed artistulate | Rounded with non-descript apex |
| Teeth | Rounded |  | Rounded | Globular | Serrated | Small rounded |
| Apical side of tooth | Retroflexed |  | Retroflexed | Retroflexed | Concave | Concave |
| Basal side of tooth | Convex |  | Convex | Retroflexed | Convex | Convex |
| Bract apicula | Length | 0.274 (0.06 – 1.3) | 0.407 (0.106 – 0865) | 0.17 | 0.22 |  | 0.21 |
| Width | 0.42 (0.124 – 0.59) | 0.41 (0.126 – 0.873) | 0.15 | 0.12 |  | 0.071 |
| Shape | Acuminate-bifurcated |  | Acuminate-bifurcated | Strongly bifurcated | Aristate | Refuse |

Supplemental Table 2: Morphological and morphometric comparison between plant organs from fossil *Picea engelmannii* and *Picea* sp. indetspecimens from the Zeigler Reservoir fossil site (ZRFS) withextant species of *Picea (P. engelmannii, P. glauca, P. pungens, and P. mariana)* from North America*.* Morphological/morphometric measurements for all plant organ characters were measured in millimeters for all specimens. The data comes from a combination of primary measurements and a compilation from the following studies: Jackson and Weng 1999; LePage, 2001; Farjon, 2010; Miller, 2013. For the length and width measurements the median is outside the parenthesis and the range is inside the parenthesis. *Picea indet. sp.* will be discussed in future detail in a future manuscript.